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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,383	03/01/2004	Wolfgang Becker	3926.070	1064

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EXAMINER	
ELVE, MARIA ALEXANDRA	
ART UNIT	**PAPER NUMBER**
1725	

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/790,383	BECKER ET AL.	
	Examiner	Art Unit	
	M. Alexandra Elve	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6,7 and 10-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6,7 and 10-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

The amendment filed 6/27/06 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "...laser beam has substantially constant output for both the welding and the thermal treatment...".

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6 & 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinsman et al. (USPN 5,814,784) in view of Baessler et al. (USPN 5,567,335).

Kinsman et al. discloses laser welding whereby one laser beam is used to heat treat and weld a workpiece. The laser beam heats a tool (28) which in turn thermal treats the workpiece. A reflector diverts the beam to the workpiece (figures 4 & 5). In

addition components are pre-heated. Heat is supplied to the workpiece after processing (i.e. welding) to retard cooling thereof. (abstract, cols. 1-4, 6, clm. 13)

Although Kinsman et al. teaches thermal treatment the actual specifics are not disclosed.

Baessler et al. discloses the welding of a sheet product and a preheat prior to welding. Welding may be conducted in a curvilinear fashion and overlapping may be used. During welding the laser is defocused to negate excessive heating. Additionally, it was observed that preheating minimized temperature gradients and hence allowed for increased welding speeds. It was found that preheating negated 5 to 40% of the thermal energy required. Thus for the production of welded sheet steel bodies a welding temperature of 1000 to 1600 C implies a preheat of 100 to 600 C (thus up to 60%). (abstract, figures, cols. 1-3)

It would have been obvious to one of ordinary skill in the art at the time of the invention to use preheats with the above percentage differences as taught by Baessler et al. in the Kinsman et al. process because this optimizes the welding speed and increases manufacturing efficiency.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kinsman et al. and Baessler et al., as stated in the above paragraph and further in view of Totsuka et al. (USPN 5,303,081).

Kinsman et al. and Baessler et al. do not teach using a scanner to guide the laser beam.

Totsuka et al. discloses a laser beam for welding and annealing workpieces. Scanning is used in butt-welding in order to enhance the strength of the welded seam. The scanning mode is accomplished by oscillating the laser beam left and right. (abstract, figures, col. 1, cols. 3-4, col. 6)

It would have been obvious to one of ordinary skill in the art at the time of the invention to use scanning, as taught by Totsuka et al. in the Kinsman et al. and Baessler et al. process because of the enhance strength of the weld seam.

Claims 6 & 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiumi (JP 63-43788 abstract) in view of Kinsman et al. and Baessler et al. (USPN 5,567,335).

Uchiumi discloses the preheating and welding using one laser beam. The laser is defocused for preheating and then focused for welding. Temperature of the board (sheets) is noted to negate material property effects.

Uchiumi does not teach the actual specifics of the thermal treatment or the use of a post treatment.

Kinsman et al. discloses laser welding whereby one laser beam is used to heat treat and weld a workpiece. The laser beam heats a tool (28) which in turn thermal treats the workpiece. A reflector diverts the beam to the workpiece (figures 4 & 5). In addition components are pre-heated. Heat is supplied to the workpiece after processing (i.e. welding) to retard cooling thereof. (abstract, cols. 1-4, 6, clm. 13)

Baessler et al. discloses the welding of a sheet product and a preheat prior to welding. Welding may be conducted in a curvilinear fashion and overlapping may be used. During welding the laser is defocused to negate excessive heating. Additionally, it was observed that preheating minimized temperature gradients and hence allowed for increased welding speeds. It was found that preheating negated 5 to 40% of the thermal energy required. Thus for the production of welded sheet steel bodies a welding temperature of 1000 to 1600 C implies a preheat of 100 to 600 C (thus up to 60%). (abstract, figures, cols. 1-3)

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a post treatment as taught by Kinsman et al. and preheats with the above percentage differences as taught by Baessler et al. in Uchiumi process because this optimizes the welding speed and increases manufacturing efficiency.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiumi, Kinsman et al. and Baessler et al., as stated in the paragraph above and further in view of Totsuka et al.

Uchiumi, Kinsman et al. and Baessler et al. do not teach using a scanner to guide the laser beam.

Totsuka et al. discloses a laser beam for welding and annealing workpieces. Scanning is used in butt-welding in order to enhance the strength of the welded seam. The scanning mode is accomplished by oscillating the laser beam left and right. (abstract, figures, col. 1, cols. 3-4, col. 6)

It would have been obvious to one of ordinary skill in the art at the time of the invention to use scanning, as taught by Totsuka et al. in the Uchiumi, Kinsman et al. and Baessler et al. process because of the enhance strength of the weld seam.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 6:30-3:00 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

October 14, 2006.

M. Alexandra Elve
Primary Examiner 1725